



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D205-634-041
Job Sheet 184813



Part No: D205-634-041

Job Qty: 1 ea

Part Name: Replacement Skidtube with Standard Wearplates Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/17/18

Job Tracking No:

Due Date: 11/2/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D2580 REV H SHEETS 1,2,3,8 IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ IPP Rev P 10.02.19 per PAR09-043 EC verified by:DD IPP Rev. O 06.02.28 Added paperwork EC IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q 10.12.01 as per chg003 DD verf:EC IPP REV:R 12.01.23 AS PER ECN11-684 VERF:EC IPP REV:S 17.12.08 REMOVE GASKET AS PER INTUITIVE INFO DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		11/2/18	0.00	0.00	Start Up Skid tubes		M/26
110	CNC Bend Skid tubes	1 pcs		11/2/18	0.00	0.65	CNC Bend Skid tube		M/26 TF
120	Skid tubes	1 pcs		11/2/18	0.00	2.89	Skid tubes-2		DR
130	QC	1 pcs		11/2/18	0.00	0.00	QC5		DR TF
140	Skid tubes	1 pcs		11/2/18	0.00	2.89	Skid tubes-2		DO DAS
150	QC	1 pcs		11/2/18	0.00	0.00	QC10		38 DAS
160	QC	1 pcs		11/2/18	0.00	0.00	QC5		9-89 38
170	HandFinish	1 pcs		11/2/18	0.00	1.31	HandFinish1		DR 18/11/18
180	Powdercoat	1 pcs		11/2/18	0.00	0.34	Powdercoat1		BE 18-11-15
190	QC	1 pcs		11/2/18	0.00	0.00	QC3		18-11-15
200	HandFinish	1 pcs		11/2/18	0.00	1.31	HandFinish4		BE 18-11-15
210	QC	1 pcs		11/2/18	0.00	0.00	QC5		DAS NOV 19 2018 68
220	Packaging	1 pcs		11/2/18	0.00	0.00	Packaging3-1		46 NOV 20 2018 9-89 Fy 073
225	DC	1 pcs		11/2/18	0.00	0.00	DC		9-89 21 NOV 21 2018
230	QC21-FG	1 Ea		11/2/18	0.00	0.00	QC21		9-89 DAS NOV 21 2018

Part Op 110 - 1-Bend as per program D2580.C on CNC Bender and Folio 16 2-Cut tubes as per Dwg. D2580 3- scribe batch# in Descriptions: aft end of tube

120 - 1- Deburr ends and remove bending marks 2- Prepare tube for welding as per QSI 004

140 - 1-Weld step D2576 as per Dwg. D2580 and QSI 004 2-Grind welds on step as per Dwg D2580 3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimention. 4-Drill holes for wearplates using DT 8217 & DT8937, 7.40" from most fwd saddle holes (ref only) Open holes to 19/64", adjust stopper not to hit web. Deburr 5-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Deburr 6-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

170 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

180 - START TIME: 9:00 OVEN TEMPERATURE: 320° FINISH TIME: 9:30

200 - 1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates A/R Sikaflex-291 M38943 Sikaflex expire date: 1903 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580 3-Inspect for foreign object per QSI 024 4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive A/R Sikaflex-291 M38943 Sikaflex expire date: 1903

5-Wing Walk as per Dwg D2580 and QSI 005 4.4 Batch: 5098120

210 - Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI-024

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2580-1	205 Bent Tube	1 Ea (1 ea)	90-Start up Operation	5120121
D2576-3	Step (Machining Detail)	1 Ea (1 ea)	140-Skiddtubes	5089827
D4202-1	Spacer	20 Ea (20 ea)	140-Skiddtubes	5121423
ALS7-1032-130	Rivnut	50 Ea (50 ea)	200-HandFinish	21x5084123 29x5112 899.
AN3-5A	Bolt	2 Ea (2 ea)	200-HandFinish	5095480
AN3C4A	Bolt	50 Ea (50 ea)	200-HandFinish	5095223
D2594-1	Plug	16 Ea (16 ea)	200-HandFinish	5120401
D2594-3	O-Ring	16 Ea (16 ea)	200-HandFinish	5106795
D2855	Cap	1 Ea (1 ea)	200-HandFinish	5066018
D3564-11	Wearplate Aft	1 Ea (1 ea)	200-HandFinish	5089788
D3564-13	Wearpad Fwd	1 Ea (1 ea)	200-HandFinish	5107996
D3564-5	Wearplate Center	1 Ea (1 ea)	200-HandFinish	5107249
D3564-9	Wearplate Fwd	1 Ea (1 ea)	200-HandFinish	5107312
NAS1149C0332R	Washer	50 Ea (50 ea)	200-HandFinish	5089465
NAS1149D0332J	Washer	2 Ea (2 ea)	200-HandFinish	5100407-1

M.U. 006504

Job Allocations

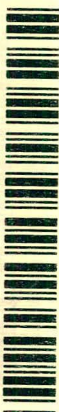
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2580-1	1	4	0
140-Skiddtubes	D2576-3	1	43	0
	D4202-1	20	157	0
200-HandFinish	ALS7-1032-130	50	1,867	0
	AN3-5A	2	266	0
	AN3C4A	50	2,094	0
	D2594-1	16	40	0
	D2594-3	16	552	0
	D2855	1	45	0
	D3564-11	1	23	0
	D3564-13	1	19	0
	D3564-5	1	14	0
	D3564-9	1	13	0
	NAS1149C0332R	50	3,734	0
	NAS1149D0332J	2	2,171	0

Part Specifications

1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL: 1 613 632-5200
 Email: sales@dataero.com
 www.dataerospace.com

DATA
 AEROSPACE

Container No: S122170



Part: D205-634-041

Job No: 184813

Serial No/Batch: S122170

Revision: H

Inspector:

Exp Date:

Instructions: TC STC SH96-88 Issue 2 of FAA-STC SR00563NY 08/08/11, EASA STC

marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

ITEM	QTY -041	QTY -045	QTY -047	QTY -049	PART NUMBER	DESCRIPTION
1	X				D2580-041	SKIDTUBE ASSEMBLY
2		X			D2580-045	SKIDTUBE ASSEMBLY
3			X		D2580-047	SKIDTUBE ASSEMBLY
4				X	D2580-049	SKIDTUBE ASSEMBLY
20	1	1	1	1	D2500-1-190	EXTRUSION
21			16	16	D2570	BUSHING
22	1	1	1	1	D2576-3	STEP
23		4			D2579	SPACER
24	16	16	8	8	D2594-1	PLUG
25	16	16	8	8	D2594-3	O-RING
26	1	1	1	1	D2596	205 WEB
27	1	1	1	1	D2855	AFT CAP
28	1	1			D3584-5	WEARSHOE
29	1	1			D3584-9	WEARSHOE
30	1	1			D3584-11	WEARSHOE
31	1	1			D3584-13	WEARSHOE
32	20	20	24	24	D4202-1	SPACER
33			1		D4408-041	WEARPLATE ASSEMBLY
34			1		D4408-043	WEARPLATE ASSEMBLY
35				1	D5081-1	FWD WEARPLATE
36				1	D5081-3	AFT WEARPLATE
60	50	50			ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
51	50	50			AN3C4A	BOLT
52	2	2	2	2	AN3-5A	BOLT
53			8	8	AN4-45A	BOLT
54	50	50			NAS1149C0332R	WASHER (AN980C10L)
55	2	2	2	2	NAS1149D0332J	WASHER (AN980JD10L)
56			8	8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT (-041/-047/-049) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT (-045) GREEN SANDTEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 33.7 lbs
D2580-045 = 33.7 lbs
D2580-047 = 45.1 lbs
D2580-049 = 32.0 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL 20.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-281.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047/-049)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 184813 M-5
1870-17

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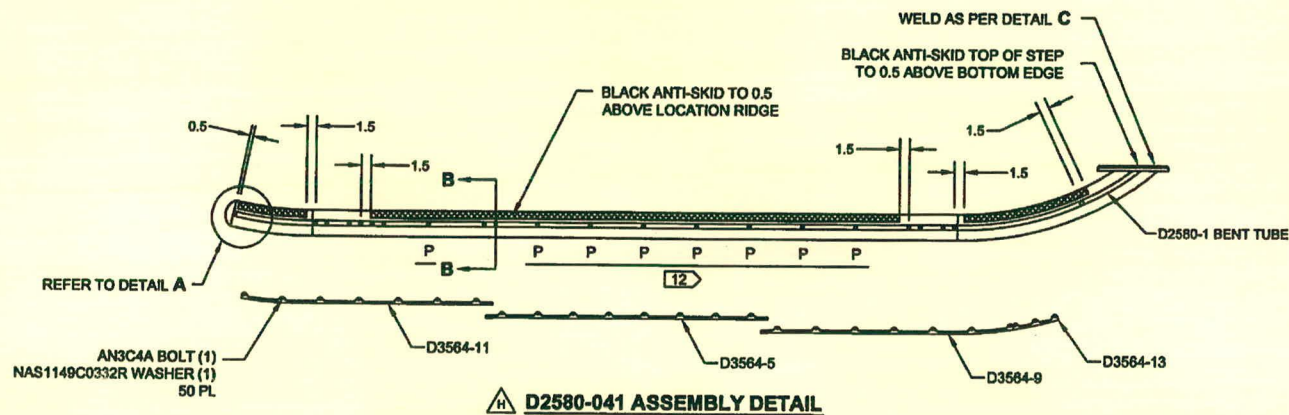
2017 JUL 05 4P
ECN17-569

H	SHEET: PL DELETE D3566-1/-5/-13 GASKETS, WEIGHTS UPDATED ACCORDINGLY. SHEETS 2 & 4 PICTORIAL UPDATE FOR REMOVAL OF GASKETS	SAD	17.06.09
G	ADDED -049, -047 WEIGHT UPDATED PER DSI 9596	AJS	14.04.09
F	INCORPORATE DEO D2580-E-1 PER PAR12-218	DC	13.06.20
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 8124/ 9183	PH	07.04.06
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	98.12.02
A	NEW ISSUE	DS	98.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	SAD		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	17.06.09		

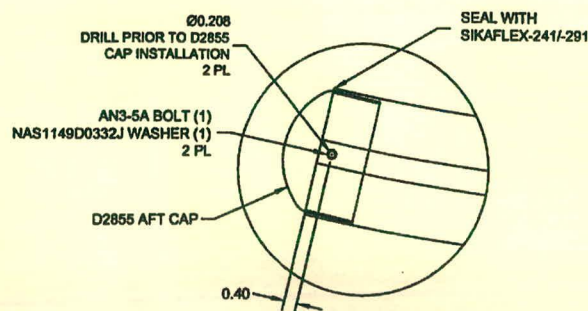
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. H
D2580 SHEET 1 OF 9
TITLE SCALE
205 SKIDTUBE ASSEMBLY NTS

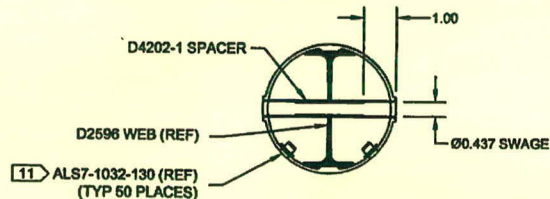
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DETAIL A
SCALE 5X

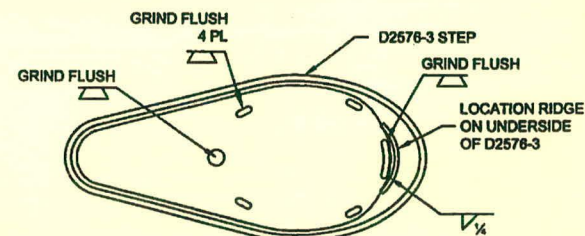


SECTION B-B
SCALE 5X



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. INSERT D4202-1 SPACER (20 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

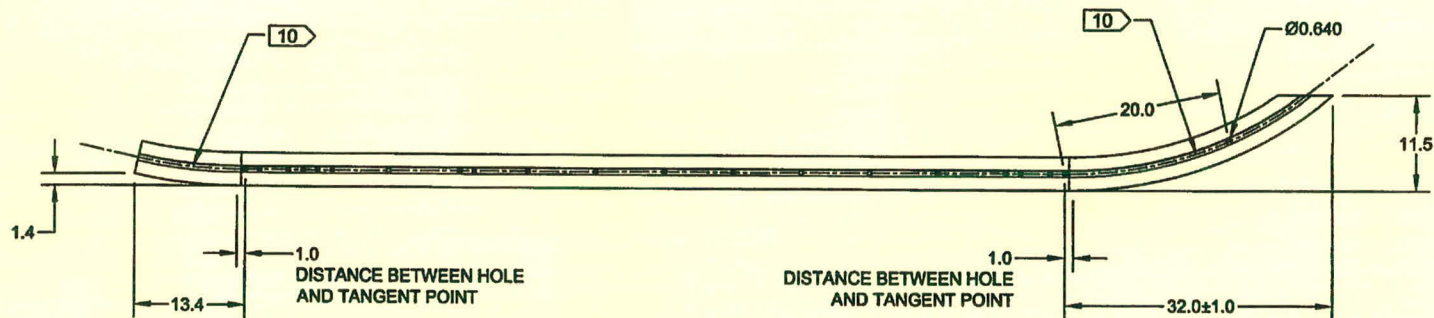
DETAIL C
SCALE 5X



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2017 JUL 05

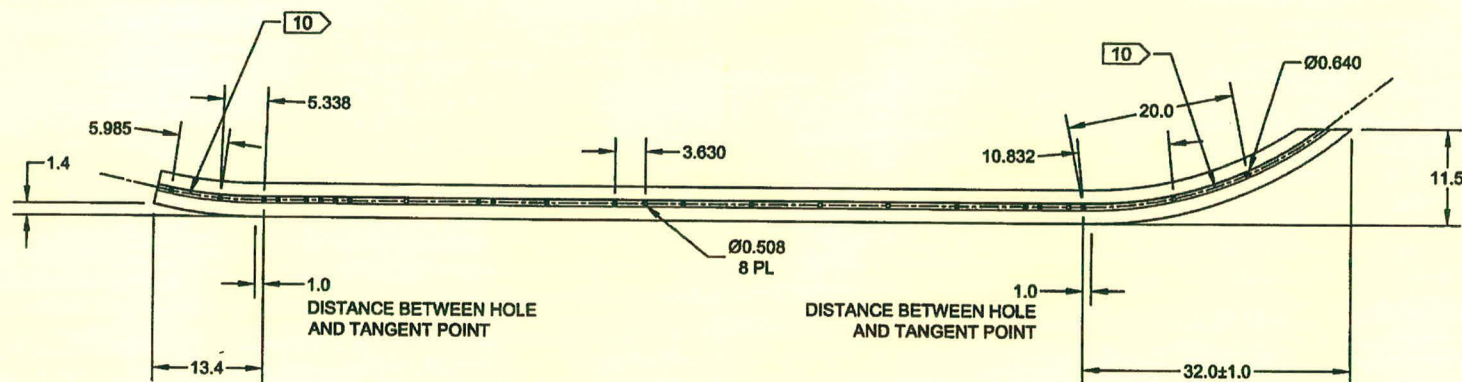
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DRAWN	SAD		
CHECKED	<i>[Signature]</i>	DRAWING NO. D2580	REV. H
MFG. APPR.	<i>[Signature]</i>		SHEET 2 OF 9
APPROVED	<i>[Signature]</i>	TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
DE APPR.	<i>[Signature]</i>		
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D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2017 JUL 05 *4*

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DRAWN	SAD		
CHECKED	<i>[Signature]</i>	DRAWING NO. D2580	REV. H SHEET 3 OF 9
MFG. APPR.	<i>[Signature]</i>	TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
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DE APPR.	<i>[Signature]</i>		
DATE	17.06.09		



D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)

RELEASED

2017 JUL 05

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CHECKED	<i>[Signature]</i>	DRAWING NO. D2580	REV. H SHEET 8 OF 9
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DATE	17.06.09		

